Los Alamos NATIONAL LABORATORY
LA-UR-21-29284

2022 Computational Physics Student Summer Workshop

Workshop Dates: June 13 – August 19, 2022

Los Alamos National Laboratory's X-Computational Physics Division, in cooperation with other related divisions including Theoretical Design and Computer, Computational, and Statistical Sciences, is pleased to sponsor the 2022 Computational Physics Student Summer Workshop.

The workshop seeks to bring to the Laboratory a diverse group of exceptional undergraduate and graduate students for informative, enriching lectures and to work with its staff for 10 weeks on interesting and relevant projects that may culminate in articles or conference presentations. Students are organized into teams of 2 working under the guidance of one or more mentors.

Each participant is awarded a fellowship that typically ranges from $8,500 to $15,000 based on academic rank (junior, senior, 1st year graduate student, etc.).

Lectures, Teamwork, and Mentoring are integrated to help you learn about computational physics and enhance your career. Shared technical goals help you build connections for the future.

Generous Fellowships are awarded to support your educational and research efforts while in the summer workshop.

Social Events and Tours enhance the team-building experience, creating lasting memories and professional relationships. If the workshop is held remotely, a series of career-enrichment talks are planned as well as some virtual social hours.

2022 Projects

1. A New Way to Measure Black Hole Spin Orientations
2. Uncertainty Quantification in High Explosive Products Equations of State Inferred from Experiments
3. Understanding Warm Dense Matter beyond Density Functional Theory
4. Modeling Aquarium Experiments: High Explosives Underwater
5. Taking Large-scale Nuclear Data Validation to the Next Level via Machine Learning Methods
6. Improving DFEM Transport Performance on Cell Based AMR Meshes
7. Center-of-Mass Multigroup Scattering in Monte Carlo Radiation Transport Codes
8. Fully Kinetic Modeling of Plasma Flux Tube Transport
9. High-order Matrix-free Three-dimensional Lagrangian Hydrodynamics Method
10. Computing Detonation Waves in the Blink of an Eye
11. Modeling and Simulation of Oceanic Turbulence
12. Uncertainty Quantification of High Explosives for Binder and Formulation Differences

For more on previous year's research reports, to sign-up for our mailing list, and complete application instructions, visit our website at http://compphysworkshop.lanl.gov.

Applications will be evaluated on rolling basis and exceptional applicants will be notified as soon as they are reviewed.

Early Applications Accepted November 1, 2021
Applications Close: January 21, 2022
Applications are accepted from US citizens only.